

to the depredations of rats, bandicoots, wallabies and opossums, which eat every nut they can find, and it would mean a total loss if the nuts were exposed to these predators for long. In fact, between the natives and the wild animals it is a great wonder that the Bunya pine managed to exist in the numbers present before milling the timber on a large scale commenced. This may explain the comparatively limited distribution of the species as compared with the hoop pine.

In conclusion, it may be stated that the Bunya pine has played a large and important part in the social and economic life of the aboriginal inhabitants of south-eastern Queensland, and a lesser extent, perhaps, in the whole of Australia, because at the triennial meetings tribal corroborees from far districts would be enacted and then carried away and replayed at other places, and thus passed gradually far and wide. Owing to the overgrowth of bark and to the sawmilling industry, together with the natural death of the old marked trees, most visible traces of the association of the natives and the trees will, in the course of time be lost. Even in the Bunya Mountains National Park, where the best remaining collection of marked trees is to be seen, these relics of the past will within a comparatively few years disappear, due to natural agencies. In order to provide material for future study, it is suggested that one or more Bunya logs be preserved with the bark on, in some suitable place such as a museum, for in future years such specimens would be an invaluable asset to any ethnological and historical collection.

DESCRIPTIONS OF SOME CHALCID WASPS.

By A. A. Girault, B.Sc.

The following species have been reared mostly from various pest insects; and on this account ought to have speedy publication. Also they form contributions to a monograph now completed (MSS.). The types are in some Australian museum. The descriptions follow.

Gyrolasella margiscutellum nov.

In my revision of the species runs to *trifasciatifrons*, but the face is not trifasciate, the wings are always hyaline, there are no distinct transverse lemon abdominal marginal marks, and the species is smaller and marked as follows: Green, flavous as follows—Head, except a large central mark upon the cheek, a spot upon the face against the eye above the antennae, a broken line through the antennae

(ba(se), ocellar spots, upper half of the occiput (at meson above incised with yellow and with a thin green line across, the scape above at distal half and below at base; the pedicel above, the distal margin of the scutellum, the lateral margins of the axillae, the lateral margins of the abdomen above and below brokenly; the hind coxae, the hind femora at not quite basal half above, often only at the lower half, always less beneath; the fore femora at a narrow line at centre of the lower side; and the middle femora above the basal half. Mandibles 4- and 5-dentate. Postmarginal, vein nearly as long as the stigmal, the venation yellow, the stigmal knob dusky. * First segment of the funicle square.

The male, though smaller, is about the same, but the cheeks are all pale, the antennae lighter, and the abdomen pale laterally only at wide centre narrowly and straightly. Other characteristics (structures) are in MS. From many pairs from the ova of *Gonipterus*, Canberra, F.C.T., A. L. Tonnoir.

Gyrolasella iphigenia nov.

In my revision of the species runs to *hemansi*, but differs thus: Only the meson of the pronotum is green; there is no band across the base of the clypeus; the mesal half or more of the parapside is green; the green of the scutellum is full at base and always a bit narrower at apex (that of the pronotum might be all in the variety, that of the scutum might suddenly narrow distad to a median line or else fill the whole scutum, and so with the postscutellum); hind coxae nearly all green (usually at least above); there is a blotch on each femur at ventral half, at basal half more or less (ventral and central in the fore and middle femora): this blotch is invariably present. The lines of the abdomen, though similar, yet differ thus—the first three (or even five) are joined very widely along the meson by suffused metallic, and the first two lines are represented only by marginal dots; No. 3 is thin and somewhat before the middle; No. 4 thicker and beyond middle; No. 5 is thick (its width from No. 4); the curved thin No. 6 is very near to the apex. The whole disk of the abdomen ventrad is black (the marginal bands showing laterad).

The male is smaller, the head and antennae yellow, and with the two proximal dots, the legs unmarked. the disc of the abdomen above metallic, the margins wavy. Ocellar area green. In both sexes, the cephalic mesopleurum and various marks upon the meso-venter are golden. Many specimens of both sexes reared with

margiscutellum above.

The jaws bear two large outer and two small inner teeth.

Of this species, I now describe the following variety:
Gyrolasella iphigenia hyacinthus nov.

A pair with the typical form. Like the typical form but: Scutum and the postsutellum and the pronotum all metallic; all (7 complete) bands of the abdomen (including No. 1 at base) are widely joined along the meson. Runs to *channingi* but: Half smaller; the postsutellum is all green; bands Nos. 6-7 of the abdomen are not paired and are very close together; the first funicle segment is longer than wide; there are only 7 lines upon the abdomen; the scutum and pronotum are all green (except in the latter, a lesser lateral corner). There is a band across the lower face and cheek, on the latter widening and turning ventrad. From *rarifasciatus*: Post sutellum solidly green; abdomen with only 7 cross-bands (8 in the other), and the median stripe does not narrow between any of Nos. 1-7; scutum all solid aeneous; the green spot of the axilla much smaller; and so forth.

Coccophagus clariscutellum Girault *fasciafacies* nov.

Differs from the typical form in bearing a wide cross-band upon the face *above* the antennae, the scutum entirely yellow. Described from a single female reared from *Aspidiotus perniciosus* on plum, Stanthorpe, J. H. Smith, Feb., 1927.

Dinoura apiomorphae nov.

As *auriventris* but the middle and hind tibiae are aeneous except rather widely at each end, and the middle ones beneath, the abdomen wholly metallic, and so the femora. Scutellum with a curved lateral groove. Fore femur with a fringe of long white hairs ventro-caudad. Propodeon with a median carina and a spiracular sulcus. Lateral ocellus about midway. Costal cell wide, a line of strong, black cilia cephalad, this doubled distad. Scape sub-equal to the first funicle joint; antennae thick, the first funicle much exceeding the pedicel, twice longer than wide, No. 6 slightly longer than wide, thirteen segments, two very short, rings, three club segments. A female from *Apiomorpha* galls, Brisbane, H. Hacker.

Isoplatoides westraliana nov.

Two ring-joints. Purple, the legs except the coxae and the antennae except the last five segments, red yellow, also the basal half of the abdomen except immediate base (segments 2-3, basal half of 4, No. 2 equal to Nos. 3 plus

4). Fore wings with the following fuscous marks: the principal from near the apex of the stigmal vein a bit over half-way across and hook-shaped or like an L with the lower arm thicker than the upright and about as long and reversed, hence more J-shaped, the lower arm straight; two fainter spots in an oblique line centrally, the apical opposite the middle of the marginal vein, basal opposite the base of the same vein. Segments 1-2 of the funicle two and a half times longer than wide, Nos. 3-4 twice longer than wide, exceeding the pedicel, No. 6 a half longer than wide, slightly exceeding the pedicel. The two small spots on the wing are obscurely joined to each other; the caudal and proximal one is in the apex of the central triangle formed by the proximal ending of the discal ciliation, which comes to a point opposite the bend of the sub-marginal vein; the cephalic one is up along the cephalic margin of this triangle about half-way to base or where the side joins 4-5 lines depth of ciliation (along whole of the marginal vein); there is also a patch of ciliation 6-7 lines deep and half-way across from the sub-marginal vein commencing just proximad of the bend; and a cephalic line in the costal cell. Ciliation (fore wing) obliqued from base (or near it) of the stigmal vein.

Stigmal vein long and slender, three-fourths the length of the marginal or postmarginal. Clypeus somewhat bilobed. Hind wings obtuse at apex, with 14-16 lines of discal ciliation. Bristles from the marginal and post-marginal veins very short, but there are stout ones of moderate length from the sub-marginal except distad where there are only 5-6 minute setae. At least one mandible 4-dentate. Palpi dark. Propodeon tricarinate, with a spiracular sulcus, the spiracle round. Thorax and head densely punctate, the scutum pilose. Parapsidal furrows complete, not conspicuous. Third segment of the maxillary palpus much shortest, somewhat longer than wide, about half the length of the second, the fourth longest, sub-elongate, almost as long as the three segments of the labial palpus whose middle segment is much the shortest. Both mandibles are 4-dentate. From four males reared from the Jarrah leaf-miner at Perth, West Australia, January 15, 1923, L. J. Newman. Types in the West Australian Museum.

Amonodontomerus poeta nov.

Much resembles *Euryperilampus*, which see. Form of *Macrodontomerus*, but otherwise much as in *Toxeumoides*. Antennae at the clypeus, clavate, 11-jointed, 1 ring and 3

club joints. Mandibles tridentate. Clypeus convexly produced, entire. Marginal vein moderately long, about twice the length of the stigmal, the postmarginal exceeding the marginal, elongate. Ciliation normal. Pronotum cross-quadrate, shorter than the scutum, the latter's furrows deep. A distinct cross-suture before the apex of the scutellum. Petiole distinct, transverse. Propodeon with distinct, converging spiracular sulci, whose lateral edges are carinated. Spiracle small, round. Segments Nos. 2, 4 of the abdomen equal, each a third the length of the surface. No. 3 shorter but next longest; ovipositor nearly as long as the abdomen. Lateral ocelli closer to the eye than to the cephalic. Two hind tibial spurs.

Blue-green, the wings clear, the legs except the coxae and the hind femur, the antennae and the tegulae, brown-yellow. Finely cross-reticulated, the scutellum beyond the suture and the propodeon laterad of the sulci, glabrous as is also the abdomen. Pedicel not especially long, exceeding all the funicle segments which increase distad and are wider than long, the first nearly twice so, No. 5 over thrice so. A few longish setae from the vertex. Several cross-rows of fine setae are upon the pronotum, the scutum with more scattered and longer ones, the scutellum with four equal to those of the scutum. The discal ciliation extends to the base of the wing. The male is similar in colour. A male, two females reared from leaf-galls on *Eucalyptus* at Toowong on December 10th, 1920, by Mr. Hubert Jarvis.

Coccophagus horatii nov.

Belongs to that group of species where the abdomen is entirely black, the first segment of the funicle is not abruptly shortest, none of the funicle segments are elongate and the wings bear a distinct fuscous band. Runs to *vegai* and allies and closest to *ashmeadi* and its varieties, but differs from the latter in that the scutum is all yellow, the axilla black, as also nearly all the pronotum and the meso-metapleurum; the first segment of the funicle is narrower than the others and equal to the first club joint. Legs pale. Two females reared from *Eriococcus* on *Eucalyptus*, Indooroopilly, Jan., 1932.

Coccophagoides aurithorax nov.

Of the six species this one is characterised by having segment No. 2 of the funicle one-half shorter than the moderately long pedicel and square, the first segment distinctly wider than long and about half the length of the second. Head and thorax except mesopleurum and axillae and the base of the abdomen very narrowly, golden. Hind

coxae and femora black. Metatarsus equal to the middle tibial spur and to the first segment of the middle tarsus. Two females, Perth, W. Australia, from coccids, L. J. Newman.

Physeus atrithorax nov.

Belongs to those species with a black head and is the same as *addisoni*, except that the forelegs and the club are black. The abdomen is also margined with black for basal three-fourths. A single example reared from *Cero-plastes rubens* on Eugenia at Brisbane in June.

Anagyropsis smaragdus nov.

Belongs to that section of the genus where the ovipositor is not or barely extruded, rather is shortly extruded ($\frac{1}{4}$ or less of the abdomen) and the scape is only moderately, convexly dilated (clavate) and runs to *hardyi*, but the first funicle segment is only a half longer than wide and shorter than the pedicel. Queanbeyan, N.S. Wales, in November, from the eggs of *Gonipterus*, A. L. Tonnoir.

Anagyropsis spondyliaspidis nov.

In my modernised synopsis, runs to *dius* and *dyeri*, differing from the former in that the segments of the funicle are slightly longer than wide, slightly shorter than the pedicel, the antennae black except apices of scape and pedicel, hairless line with 5-6 lines of coarser cilia, closed by two lines caudad; bristles of the sub-marginal vein moderately gross; spiracle of the abdomen somewhat proximal of the middle. Ovipositor shortly extruded. The males bear antennal segments Nos. 1-2 and 6 much shortest, Nos. 1-2 large, unequal "ring-joints." club solid (joints of the funicle otherwise). The male scape is only thick; segments Nos. 1-2 of the funicle are each smaller than the globular pedicel, while Nos. 3-5, most of the scape and the club apically are silvery; else the male is like the other sex. Pairs reared at Black Mountain, F.C.T., from *Spondylia eucalypti*, Dobson, by Mr. J. W. Evans, in December, 1929. The host is a Psyllid, and accounts for the frequent finding of members of this genus upon the leaves of *Eucalyptus* in close proximity to the cases of this kind of insect.

The following species have been received for identification from various sources and need publication. A note upon a Javanese insect, *Cupelmus grayi* Girault *brevicinctus* nov., is also added.

This variety is like the original description and diagnosis (later) of the typical form, but the white part of the ovipositor valves is short, not half the distal black and distinctly shorter than the basal; the middle femora.

are solidly aeneous, the middle tibia with a cinetus near the knee, this at about basal fourth. The following notes were also added:

The palpi are black, the segments short, but No. 4 is equal to the others united, long. Middle tibia with three black teeth below at apex, these similar to the teeth upon the ventral tarsus of the same leg. Fore wing with a rather short hairless line extending from a point opposite to the middle of the marginal vein obliquely to opposite the base of same and to about the middle of the wing; this is completely isolated from the surrounding ciliation and commences about four lines of ciliation from the middle of the marginal vein. Hind or second wing with from twelve to fifteen scattered, fine lines of ciliation, its caudal fringe longish.

One female reared from *Agromyza phaseoli* by Mr. Ross, of the Queensland Department of Agriculture, May 1st, 1912, Glasshouse Mountain.

Apparently Dodd, in the Transactions of the Royal Society of South Australia, xli., 1917, pp. 356-357, described this variety without name, giving also a description of the male, which is valuable. Some time ago I had access to his material, but had not gotten around to it; subsequently, on coming upon this note of newness, I hunted for it with the object of comparing the specimens. However, they could not be found. But I think his description is clear enough, and that his specimens were this species and variety. I have so recorded.

Anagyropsis cinctithorax nov.

Aeneous, the wings hyaline, the following parts golden: A line across the cephalic frons, mouth, a line down the face between the two just outside of the antennae, antennae except dorsal scape and dorsal pedicel; pronotum, propleurum (continuously), tegulae except apex, fore legs except ventral femur and the coxae, rest of the legs except the coxae; a spot below the middle knee and a longer one on middle tibiae toward apex, hind femora except ventral margin; and the dorsal hind tibiae. Venation dark, the marginal vein slightly longer than wide, the stigmal much longer than it, a bit exceeding the postmarginal. Wing ciliated to base. Dorsal thorax pilose. Lateral ocellus near eye, distinctly farther from its mate than from the median, the frons wide. Scape short and strongly clavate, about twice longer than wide, moderately dilated. Segments of the funicle globular-quadrangle, somewhat shorter than the pedicel, the club about half the length the funicle. Palpi pale except the fourth of the maxillary. Hairless line closed caudad by 3-4 lines of cilia.

The male has the entire face except the median line nearly to the mouth, the antennae and the lower fourth of the head golden, the segments of the funicle a bit longer than wide, exceeding the shorter pedicel, the club unjointed, the flagellum with moderately long, bristly hairs. Described from many specimens reared from a new species of *Cleptes*, Taroom, Queensland, the host upon brigalow, October 31, 1931, Austin Theobald and J. A. Weddell.
Tetrastichus palgravei Gir.

On account of the rapid changes in respect to the knowledge of the Chalcididae, it has been my practice to be constantly revising descriptions. I have found that what is valuable in respect to one genus is not so in another; that often the very character necessary to know has been neglected heretofore; e.g., in *Spalangia*, an old genus, who can now recognise any of the species, especially those of Europe? The essential characters to know have never even been mentioned. I need not apologise farther for this note upon this Javanese species.

The fore and middle femora are yellow. There is no postmarginal vein. The metatarsus is about four times longer than wide, equal to the second segment, but the third and fourth segments are shorter (hind legs). The second wing bears fourteen lines of cilia. Fore wings wide, densely, finely ciliate. In reference to this latter, discal ciliation, one character often occurs that is seldom noted, namely, whether or not the so-called basal and cubital nerves are present (of Foerster). Whatever their value may prove to be (I think they may prove to have inter-family significance), in genera and species they are often of great importance. I am working along that line—just at present in reference to classification of the families. But to be short, here in this species, the basal nerve meets the cubital in a point and bears five cilia; after meeting, the two continue proximad for 1 cilium. Of the bristles of the sub-marginal vein none were seen, but one is probably present. This character seems to me very indeterminate; and the material I have does not allow much to be done. However, this character should not be neglected.

In the original description of this species, as printed, the following corrections are necessary: Line 1—*hind femur* 1 should have been *hind femur and femur* 1; line 4, *ovate* should have been *acute*.

Mesastymachus keatsi nov.

From the genotype: Scape much convexly dilated, hemispherical-clavate; purple except the vertex, distal half of the scutum and the scutellum, these orange; tibial tips and the spur, metatarsus and the middle tarsi and

the knees, pale. Venation dark. Segment No. 1 of the funicle square, No. 2 slightly shorter, No. 3 shortest, a half wider than long, the rest square and exceeding No. 1. Jaw teeth well-formed, acute, equal. Pedicel nearly twice longer than wide (apex). Hairless line closed, 12 lines of cilia proximal to it. Ovipositor inserted at base. Palpi 3- and 4-pointed. Male all purple except the very elongate yellow club, tibial tips, middle tarsi, the spur and the knees. The single funicle segment is wider than long, shorter than the pedicel: club exceeding by much the rest of the antennae, unjointed, antennae 4-jointed. In the female, the frons is wider and the eyes smaller. The peculiar male is noteworthy. One male and two females reared from *Tachardia melaleucæ* at Perth, West Australia, by Mr. L. J. Newman, the Government Entomologist. Two more females have been seen; and there are two more species of the genus known, all Australian.
Eupelmus fuligispina nov.

In the whole continent of Australia there are over a score species of the genus with a fuscous band from the marginal vein, this either divided by a hyaline band, or bearing a pair of eye-spots or ocellae. In the former group still another species has been added, characterised by its close affinity to the others. It bears *black* middle tibial spurs. It is the one hundred and thirty-first species of the genus (now united with *Anastatus*).

In my diagnosis of the genus it runs out to *redini* (the male with concolorous legs except tarsi), but differs thus: The ovipositor is dusky at basal half; the middle tarsi are not red nor the spur, the latter longer in *redini* and dark only at tip; the first tarsal joint is shorter, subequal (dorsad) to the spur; middle tibia not red at tip as in *redini*; and farther, the segments of the funicle differ in that segment No. 2 is shorter, being only two and a half times longer than wide and subequal to the pedicel, Nos. 3 and 4 equal and slightly longer than wide, shorter than the pedicel. The male is all blue except the first three segments of the middle and hind tarsi, the fore and middle knees and the middle tibial spur, these white, the rest of the tarsi brown.

Reared from (actually found upon the clusters of, later reared from the three specimens so found, all females), the eggs of *Ochrogaster contraria*, Walker, The Boree Moth, Lecton, New South Wales, November 19, 1936, by Dr. G. Currie, of the C.S.I.R., Canberra.

Amongst the relatives of this species, there are some notorious pest parasites, including several from cock-

